DIPTEROLOGICAL NOTES

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The Infestation of Bluebird Nests by Protocalliphora: From Mr. A. W. Higgins of Rock, Mass., I received (July 23, 1926) an abandoned bluebird's nest containing 154 larvæ and pupæ of Protocalliphora. The nest was packed in a tight tin box and as the weather was exceedingly warm it heated in transit and the larvæ were dead. Between July 30 and August 3, 24 flies emerged, all representing *P. splendida* form *sialia* Shannon and Dobroscky. Among the pupæ were 17 that were parasitized by a small chalcid, kindly determined for me by Mr. A. B. Gahan, as *Mormoniella brevicornis* Ashm. Some 204 specimens of this chalcid emerged between August 3 and 4 from these pupæ. Another bluebird's nest collected by Mr. J. D. Smith at Needham, Mass., contained 33 pupæ, from which emerged between August 3 and 5, 21 flies, all representing the form *sialia*. Of these 4 of the pupæ were parasitized by the above chalcid. The blood sucking larvæ of the Protocalliphora undoubtedly cause the death of many nestling birds. The above facts have been written up more in detail for an ornithological journal.

A large number on Hippoboscids on an Owl: On September 28, 1926, Dr. John C. Phillips captured a Great Horned Owl (*Bubo virginianus*) at Wenham, Mass. The specimen was sent to the Boston Society of Natural History and from it were taken 19 specimens of *Ornithopomus americanus* (Leach) and 34 *Ornithoica confluenta* (Say). Seven puparia of the latter species were also found. In skinning the owl Mr. J. D. Smith found six of the *O. confluenta* and three of the pupæ in the ears of the bird. These figures do not represent by far all the flies infesting the owl, as the cahuffeur said a number of the flies left the bird and were flying about the automobile on the way to the Museum.

Records for *Muscina pascuorum* Meigen, for 1926: Two males of this species were taken by the writer at Salisbury Cove,

Mt. Desert, Me., August 7 and 9, and four males and one female on Nantucket Island, Mass., Sept. 8, Mr. Howard J. Shannon reports finding eight in his attic at Jamaica, Long Island, N. Y., Oct. 22, 27 and 30. The two sent me were females. These figures show that in the late summer and early fall the males predominate, the females in October seeking buildings in which to hibernate. I am quite sure that this species covers a much greater area than has been recorded, but owing to its resemblance to other common muscids it has been overlooked. Mr. H. C. Curran has recently published (Can. Ent., vol. 58, p. 235) an account of the distribution of this fly in Canada.

The first record for the Narcissus fly (*Merodon equestris*): in America: There is apparently no doubt that this fly has been present in the immediate vicinity of Boston, Mass., for more than fifty years. The first record is that given by Packard.[1] who says:—"Mr. Sanborn has also reared from the pupa state *M. narcissi* which probably lives in the soil about decaying bulbs. It has been introduced from Europe according to Mr. Sanborn by the importers of Dutch bulbs." The fly was reared a year if not more before the publication of the work, 1869. Mr. F. G. Sanborn worked on the collection of insects at the Boston Society of Natural History at that time.

Osten Sacken in his Catalogue of Diptera 1878 says: "No American species are as yet recorded. The European *Merodon narcissi* has been occasionally introduced to the United States in dutch bulbs and the fly reared from them by Mr. F. G. Sanborn." Evidently at that time Osten Sacken had no record of the species having been taken afield and to this day the species is only found in close proximity to gardens which offer a suitable habitat.

The most interesting account of the Narcissis fly and its appearance in the vicinity of Boston is that by Professor J. G. Jack,[2] from which I quote the following: "In the Agassiz Museum Cambridge, Mass., there are larvæ of this pest and damaged bulbs of Narcissus which were received from a garden in Brookline, Mass. in 1879. During the past year or two this same es-

[1]Guide to the Study of Insects, p. 399, 1869.

[2]An enemy of Narcissus and Amaryllis, Garden and Forest, vol. X, p. 154-156, with figs. Apr. 1897.

tablishment has suffered more than usual damage from the ravages of the Merodon which appears to have been present in more or less abundance every season since it was first noticed in the place nearly twenty years ago. At that time besides various species and varieties of Narcissus, it was found to attack bulbs of *Vallota purpurea* and its varieties. Recently it has been found very destructive to many rare and beautiful Hippeastrum hybrids formerly known under the generic name of Amaryllis. And it is probable that it will be found to attack other plants of the Amaryllis family to which the Narcissus belongs. The pest has affected bulbs both in the open air and in the greenhouses." Although recorded by Banks in the "Bibliography of Economic Entomology," pt. 7, p. 50, 1901, this important paper on the history of this species in America seems since then to have been overlooked. A specimen in the Museum of Comparative Zoology bears the following label "From Hippeastrum bulbs in Greenhouse, Brookline, Mass., March 16, 1897, J. G. Jack." There is also a specimen from Prof. Jack in the collection of the Boston Society of Natural History. In 1902 I received from G. Chagnon for determination a specimen collected at Montreal, which was recorded in Aldrich's Catalogue in 1905. This record probably led Curran[3] to say, "The Species was first reported outside from Montreal." The later history of the species (1908-1916) is given by Dr. C. L. Metcalf (Ent. News, vol. 30, p. 173, 1919).

[3]Kansas Univ. Sci. Bull., vol. 15, no. 1, p. 169. Dec. 1924.